Quality assessment and risk of bias for included studies

Key

Low risk of bias/high quality

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High risk of bias/low quality

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Unclear risk of bias/indeterminate quality

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Cross Sectional Studies, assessed with ARHQ Methodology Checklist:

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| **Author name** | **Year** | **1. Define the source of information (survey, record review)** | **2. List inclusion and exclusion criteria for exposed and unexposed subjects (cases and controls) or refer to previous publications** | **3. Indicate time period used for identifying patients**  | **4. Indicate whether or not subjects were consecutive if not population-based**  | **5. Indicate if evaluators of subjective components of study were masked to other aspects of the status of the participants**  | **6. Describe any assessments undertaken for quality assurance purposes (e.g., test/retest of primary outcome measurements)** | **7. Explain any patient exclusions from analysis** | **8. Describe how confounding was assessed and/or controlled** | **9. If applicable, explain how missing data were handled in the analysis**  | **10. Summarize patient response rates and completeness of data collection** | **11. Clarify what follow-up, if any, was expected and the percentage of patients for which incomplete data or follow-up was obtained** |
| Abdel-Aleem | 2016 |   |   |   |   |   |   |   |   |   |   |   |
| Abor  | 2006 |   |   |   |   |   |   |   |   |   |   |   |
| Adinma  | 1997 |   |   |   |   |   |   |   |   |   |   |   |
| Akotionga | 2001 |  |  |  |  |  |  |  |  |  |  |  |
| Albert | 2015 |   |   |   |   |   |   |   |   |   |   |   |
| Al-Hussaini | 2003 |   |   |   |   |   |   |   |   |   |   |   |
| Ali  | 2018 |   |   |   |   |   |   |   |   |   |   |   |
| Almroth-Berggren | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Almroth | 2005 |   |   |   |   |   |   |   |   |   |   |   |
| Andro | 2014 |   |   |   |   |   |   |   |   |   |   |   |
| Arafa  | 2018 |   |   |   |   |   |   |   |   |   |   |   |
| Abdulcadir  | 2016 |   |   |   |   |   |   |   |   |   |   |   |
| Birge  | 2017 |   |   |   |   |   |   |   |   |   |   |   |
| Bjalkander  | 2012 |   |   |   |   |   |   |   |   |   |   |   |
| Bogale  | 2014 |   |   |   |   |   |   |   |   |   |   |   |
| Chalmers | 2005 |   |   |   |   |   |   |   |   |   |   |   |
| Chibber  | 2011 |   |   |   |   |   |   |   |   |   |   |   |
| Chu  | 2016 |   |   |   |   |   |   |   |   |   |   |   |
| Daneshkhah  | 2017 |   |   |   |   |   |   |   |   |   |   |   |
| Dare  | 2004 |   |   |   |   |   |   |   |   |   |   |   |
| De Silva | 1989 |   |   |   |   |   |   |   |   |   |   |   |
| Dirie  | 1991 |   |   |   |   |   |   |   |   |   |   |   |
| Dirie  | 1992 |   |   |   |   |   |   |   |   |   |   |   |
| Dorflinger | 2000 |  |  |  |  |  |  |  |  |  |  |  |
| El Dareer | 1982 |   |   |   |   |   |   |   |   |   |   |   |
| el-Defrawi | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Elnashar  | 2007 |   |   |   |   |   |   |   |   |   |   |   |
| Esho  | 2017 |   |   |   |   |   |   |   |   |   |   |   |
| Gudu | 2014 |   |   |   |   |   |   |   |   |   |   |   |
| Hakim | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Jones  | 1999 |   |   |   |   |   |   |   |   |   |   |   |
| Kaplan  | 2011 |   |   |   |   |   |   |   |   |   |   |   |
| Kaplan  | 2013 |   |   |   |   |   |   |   |   |   |   |   |
| Klouman  | 2005 |   |   |   |   |   |   |   |   |   |   |   |
| Knight  | 1999 |   |   |   |   |   |   |   |   |   |   |   |
| Larsen  | 2002 |   |   |   |   |   |   |   |   |   |   |   |
| Lawani  | 2014 |   |   |   |   |   |   |   |   |   |   |   |
| Mawad  | 1994 |   |   |   |   |   |   |   |   |   |   |   |
| Momoh  | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Morison  | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Mukoro  | 2004 |   |   |   |   |   |   |   |   |   |   |   |
| Ndiaye | 2010 |  |  |  |  |  |  |  |  |  |  |  |
| Nonterah | 2019 |   |   |   |   |   |   |   |   |   |   |   |
| Nour  | 2006 |   |   |   |   |   |   |   |   |   |   |   |
| Oduro  | 2006 |   |   |   |   |   |   |   |   |   |   |   |
|  Okonofu  | 2002 |   |   |   |   |   |   |   |   |   |   |   |
| Orji  | 2006 |   |   |   |   |   |   |   |   |   |   |   |
| Paliwal  | 2014 |   |   |   |   |   |   |   |   |   |   |   |
|  Plo  | 2014 |   |   |   |   |   |   |   |   |   |   |   |
|  Raouf  | 2011 |   |   |   |   |   |   |   |   |   |   |   |
| Rodriguez  | 2016 |   |   |   |   |   |   |   |   |   |   |   |
| Rouzi  | 2001 |   |   |   |   |   |   |   |   |   |   |   |
| Rouzi  | 2017 |   |   |   |   |   |   |   |   |   |   |   |
| Sayed  | 1996 |   |   |   |   |   |   |   |   |   |   |   |
| Sharfi  | 2013 |   |   |   |   |   |   |   |   |   |   |   |
| Slanger  | 2002 |   |   |   |   |   |   |   |   |   |   |   |
| Varol  | 2016 |   |   |   |   |   |   |   |   |   |   |   |
| WHO  | 2006 |   |   |   |   |   |   |   |   |   |   |   |
| Zayed  | 2012 |   |   |   |   |   |   |   |   |   |   |   |
| Zurynski  | 2017 |   |   |   |   |   |   |   |   |   |   |   |

Case-Control studies, assessed with CASP checklist (2014):

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Year** | **1. Did the study address a clearly focused issue** | **2. Did the authors use an appropriate method to answer their question** | **3. Were the cases recruited in an acceptable way** | **4.  Were the controls selected in an acceptable way** | **5. Was the exposure accurately measured to minimize bias** | **6. (a) What confounding factors have the authors accounted for** | **6.  (b) Have the authors taken account of the potential confounding factors in the design and/or in their analysis** |
| Alsibiani | 2010 |  |  |  |  |  |  |  |
| Anikwe | 2019 |  |  |  |  |  |  |  |
| Balachandran | 2018 |  |  |  |  |  |  |  |
| Biglu | 2016 |  |  |  |  |  |  |  |
| Essen | 2005 |  |  |  |  |  |  |  |
| Frega | 2013 |  |  |  |  |  |  |  |
| Ismail  | 2017 |  |  |  |  |  |  |  |
| Mahmoud  | 2016 |  |  |  |  |  |  |  |
| Rouzi  | 2012 |  |  |  |  |  |  |  |
| Thera | 2015 |  |  |  |  |  |  |  |
| Wuest  | 2009 |  |  |  |  |  |  |  |

Cohort studies, CASP checklist (2014):

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Year** | **1. Did the study address a clearly focused issue** | **2. Was the cohort recruited in an acceptable way** | **3. Was the exposure accurately measured to minimize bias** | **4. Was the outcome accurately measured to minimize bias** | **5. (a) Have the authors identified all important confounding factors** | **5. (b) Have they taken account of the confounding factors in the design and/or analysis** | **6. (a) Was the follow up of subjects complete enough** | **6. (b) Was the follow up of subjects long enough** |
| Davis | 2019 |  |  |  |  |  |  |  |  |
| Foldes | 2006 |  |  |  |  |  |  |  |  |
| Gebremicheal | 2018 |  |  |  |  |  |  |  |  |
| Minsart  | 2015 |  |  |  |  |  |  |  |  |
| Penna  | 2002 |  |  |  |  |  |  |  |  |
| Rodriguez | 2017 |  |  |  |  |  |  |  |  |
| Saleh  | 2018 |  |  |  |  |  |  |  |  |
| Yassin  | 2018 |  |  |  |  |  |  |  |  |